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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/844,526	04/27/2001	Robert Woolley Brunson	4750-000002	3732
27572	7590	03/24/2004	EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			IP, SIKYIN	
			ART UNIT	PAPER NUMBER
			1742	

DATE MAILED: 03/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

511

Office Action Summary

Application No.

09/844,526

Applicant(s)

BRUNSON, ROBERT WOOLLEY

Examiner

Sikyin Ip

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The finality of the rejection of the last Office action is withdrawn because of new ground of rejections.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 2-8 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 15-20 of U.S. Patent No. 5865913 to Paulin et al.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed processing steps and conditions are substantially same as the invention of cited patent. The wording "components" in cited patented claims reads on any component made of similar heat treatable materials which enjoy the same benefit of those recited steps.

Claims 2-8 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 15-20 of U.S. Patent No. 5865913 to Paulin et al in view of USP 5447035 to Workman et al.

Paulin in claims 15-20, for example, discloses steps of cryogenic heat treating a quantity of components by gradually lower the temperature of said quantity of components to -300°F by liquid nitrogen, holding said quantity of components at -300°F , gradually raising the temperature of said quantity of components to ambient temperature, tempering said quantity of components at 300°F , gradually lower the temperature of said quantity of components to ambient temperature, and including steps of repeatedly tempering except the treatment of brake components. Workman in col. 3, lines 15-50 discloses the substantially same cryogenic thermal cycling processing steps could improve brake component wear. Paulin is directed to a method of improving component wear by cryogenic heat treatment (col. 1, lines 50-52) and Workman is directed to improve brake component wear resistant with the substantially same cryogenic thermal cycling processing steps (col. 1, lines 35-40 and col. 3, lines 15-50). Therefore, one of ordinary skill artisan would have been motivated to use cryogenic processing steps of Paulin to heat treat brake component as taught by Workman because both Workman and Paulin have shown that cryogenic heat treatment improves wear resistance and improve stress relief (Paulin, col. 1, lines 50-52; Workman, col. 1, lines 35-40).

Claim Rejections - 35 USC § 103

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2-8 are rejected under 35 U.S.C. § 103 as being unpatentable over USP 5447035 to Workman et al.

The Workman reference(s) disclose(s) the features including the claimed cryogenic method steps of treating brake components. The features relied upon described above can be found in the reference(s) at: col. 3, line 15 to col. 4, line 15. The difference between the reference(s) and the claims are as follows: Workman does not explicitly disclose to repeatedly heating to 300°F and cooling to room temperature although workman discloses optional heat cycle (Fig. 1) and thermal cycling (col. 1, lines 35-66). But a two step combination and two obvious process steps is unpatentable when each lends properties to the final product known to be produced when the step is practiced alone, in the absence of evidence of coaction between the

steps which produce an obvious result. In re Fortress (CCPA 1966) 369 F2d 1009, 152 USPQ 13.

With respect to the limitation as in claim 4, the claimed "approximately 100 °F" reads on an ambient temperature.

With respect to the limitation as in claim 5 which reads on the teachings in Figure 2, col. 1, lines 48-51, and paragraph bridging col. 3 and 4 of said reference which teach raises the temperature from –300°F to an ambient temperature at about 15.5°F/hour. Because claimed temperature (approximately –100°F) is within temperature range set forth above and because the temperature ramp up rate (15.5°F/hour) disclosed by Workman is slow enough to consider the brake component is tempered at approximately –100°F.

With respect to the limitations as set forth in claims 6-7 that it is insignificant where or what device to be used for heat treatment as long as the heating rates are same.

With respect to claim 8 that Workman in col. 3, lines 30-35 discloses cryogenic fluid could be liquid nitrogen or similar low temperature fluid. It is known in the art of cited reference and dictionary that fluid includes gas and liquid.

Claims 2-8 are rejected under 35 U.S.C. § 103 as being unpatentable over USP 5865913 to Paulin et al in view of USP 5447035 to Workman et al or vice versa.

Paulin in claims 15-20, for example, discloses steps of cryogenic heat treating a quantity of components by gradually lower the temperature of said quantity of components to –300 °F by liquid nitrogen, holding said quantity of components at –300°F, gradually raising the temperature of said quantity of components to ambient temperature, tempering said quantity of components at 300°F, gradually lower the

temperature of said quantity of components to ambient temperature, and including steps of repeatedly tempering except the treatment of brake components. Workman in col. 3, lines 15-50 discloses the substantially same cryogenic thermal cycling processing steps could improve brake component wear. Paulin is directed to a method of improving component wear by cryogenic heat treatment (col. 1, lines 50-52) and Workman is directed to improve brake component wear resistant with the substantially same cryogenic thermal cycling processing steps (col. 1, lines 35-40 and col. 3, lines 15-50). Therefore, one of ordinary skill artisan would have been motivated to use cryogenic processing steps of Paulin to heat treat brake component as taught by Workman because both Workman and Paulin have shown that cryogenic heat treatment improves wear resistance and improve stress relief (Paulin, col. 1, lines 50-52; Workman, col. 1, lines 35-40). Or, one of ordinary skill artisan would understand that "thermal cycling" of Workman means repeatedly tempering.

With respect to the limitation as in claim 4, the claimed "approximately 100 °F" reads on an ambient temperature.

Response to Arguments

Applicant's arguments with respect to claims 2-8 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The above rejection relies on the reference(s) for all the teachings expressed in the text(s) of the references and/or one of ordinary skill in the metallurgical art would have reasonably understood or implied from the text(s) of the reference(s). To emphasize certain aspect(s) of the prior art, only specific portion(s) of the text(s) have been pointed out. Each reference as a whole should be reviewed in responding to the

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rejection, since other sections of the same reference and/or various combination of the cited references may be relied on in future rejection(s) in view of amendment(s).

All recited limitations in the instant claims have been met by the rejections as set forth above.

Applicant is reminded that when amendment and/or revision is required, applicant should therefore specifically point out the support for any amendments made to the disclosure. See 37 C.F.R. § 1.121.


Examiner Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Ip whose telephone number is (571) 272-1241. The examiner can normally be reached on Monday to Friday from 5:30 A.M. to 2:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Roy V. King, can be reached on (571)-272-1244.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


SIKYIN IP
PRIMARY EXAMINER
ART UNIT 1742

S. Ip
March 22, 2004